United States Senate

WASHINGTON, DC 20510

April 12, 2010

The Honorable Janet Napolitano
Secretary of Homeland Security
U.S. Department of Homeland Security
3801 Nebraska Avenue, N.W.
Washington, DC 20528

Dear Secretary Napolitano:

As the Department of Homeland Security (DHS) begins the deployment of whole body imaging machines at airport screening checkpoints, we urge the Department to evaluate the imaging technology that we saw demonstrated last week at Schiphol International Airport in Amsterdam. The screening machines used by Schiphol incorporate auto-detection technology that addresses many of the privacy concerns raised by the scanners DHS is currently testing, while also appearing to provide a highly effective scan.

Computer-based auto-detection technology identifies potentially threatening objects on a person and highlights with boxes on a featureless human body outline those areas of the individual that may require further inspection. If the computer scan finds no problems, then the passenger and screener at the imaging machine are notified almost immediately that the passenger may proceed. The system we saw demonstrated obviates the need for a screening officer to review a detailed image of a passenger in a separate viewing room. Separate image viewing areas also take up vital physical space, which is already tightly constrained at most airports. Eliminating the need to view detailed images of passengers' bodies in separate rooms would, therefore, address privacy concerns and save the government and airports money on physical space for screening. The automated review of images by a computer, rather than by a screener examining the image in a separate room, also appears to improve the speed of the whole body imaging process.

Another advantage of this technology is that it avoids exposing passengers and screeners to radiation.

Dutch officials have deployed this technology in response to the attempted Christmas Day bombing by Umar Farouk Abdulmutallab. While no technology is 100 percent effective at detecting dangerous items, the Dutch officials we talked to expressed confidence that there was a "high probability" that this technology would have detected Abdulmutallab's concealed explosives.

We wanted to bring this technology to your attention because it appears to offer a solution to the significant privacy concerns that have been raised about DHS's deployment of whole body imaging machines in the United States. We would appreciate the Department providing our staff with an update on the Department's efforts to acquire and deploy this auto-detection technology, which appears to be superior to the whole body screening technology that is now being installed at U.S. airports.

Thank you for your attention to this matter. If you have any questions about this request, please contact us directly or have your staff contact Rob Strayer on the Senate Homeland Security and Governmental Affairs Committee staff at (202) 224-4751.

Sincerely,

Susan Collins
U.S. Senator

Jon Kyl
U.S. Senator

Saxby Chambliss
U.S. Senator

United States Senate

WASHINGTON, DC 20510

August 5, 2010

The Honorable Janet Napolitano
Secretary of Homeland Security
U.S. Department of Homeland Security
3801 Nebraska Avenue, N.W.
Washington, DC 20528

The Honorable John S. Pistole
Administrator
Transportation Security Administration
U.S. Department of Homeland Security
Washington, DC 20528

Dear Secretary Napolitano and Administrator Pistole:

As the Department of Homeland Security (DHS) continues the deployment of Advanced Imaging Technology (AIT) machines at airport passenger screening checkpoints, we urge the Department to better address an issue with the new technology that remains a persistent question with the American people. The issue of radiation associated with the backscatter x-ray AIT machines has not been adequately addressed by TSA. The attached article, published in *The New York Times* last week, is only the most recent in a number of media reports on concerns over the radiation emitted by backscatter x-ray AIT machines.

TSA's privacy assessment on AIT does little to assuage fears over the level of radiation that individuals are exposed to at airports. TSA's privacy assessment does note that the level of radiation absorbed from a single scan is "equivalent to the radiation received in two minutes of airplane flight at altitude." This is intended apparently to answer passengers who have real and legitimate concerns with exposure to even low doses of radiation. Frequent flyers, however, would receive heightened exposures from multiple AIT scans, and other travelers have expressed the belief that "there is *no* safe level of radiation exposure." Please provide all government-commissioned evaluations of the health effects of the radiation emitted by this technology.

Furthermore, we have not seen TSA address the issue of airport and airline personnel who work at the airport and therefore could receive multiple doses of radiation every work day. It also may be possible for TSA personnel to receive collateral doses of radiation while working in the vicinity of backscatter x-ray AIT machines. Please explain whether or not DHS has evaluated the health effects of repeated exposure to the radiation of backscatter x-ray AIT machines for these personnel. Included in this evaluation, has DHS considered the use of dosimeters to determine the amount of radiation exposure TSA employees have been exposed to over periods of time?

To address the continuing concerns surrounding the use of these machines, we request that you have the Department's Chief Medical Officer, working with independent experts,

conduct a review of the health effects of their use for travelers, TSA employees, and airport and airline personnel.

Given that these concerns have been brought to the Department's attention on several occasions, including a letter that Senators Collins, Kyl, and Chambliss sent you in April, it is troubling that TSA announced in May it would purchase an additional 100 backscatter x-ray AIT machines. Please explain why the Department continues to purchase this technology when legitimate concerns about its safety appear to remain unanswered.

Thank you for your attention to this matter. If you have any questions about this request, please contact us directly or have your staff contact Rob Strayer on the Senate Homeland Security and Governmental Affairs Committee staff at (202) 224-4751.

Sincerely,

Susan M. Collins
U.S. Senator

Richard Burr
U.S. Senator

Tom Coburn
U.S. Senator

The New York Times

July 26, 2010

Radiation Questions Over a Body Scanner

By JOE SHARKEY

IN about two years, if all goes according to the plans of the Transportation Security Administration, those vintage airport magnetometer metal detectors will be replaced by electronic body scanner machines at all 2,200 security checkpoints in all 450 commercial airports in the United States.

If the heavy reader e-mail response to my recent columns about body scanners is any indication, passengers fully understand the rationale for the better technology — that magnetometers obviously don't detect the serious threat posed by nonmetallic explosives. Yet it's fair to say that travelers also do not fully trust the security agency's assurances that the new machines are safe, that they can't be defeated by a terrorist and that personal privacy will be protected — at least, to the extent the agency has claimed.

Let's just focus today on radiation, a concern with one kind of body scanner that is being installed at airports, the so-called backscatter machines. As of last week, the agency had bought 250 backscatter units, which scan body surfaces using an "ultra low dose" of X-ray radiation, according to the manufacturer, Rapiscan Systems.

The T.S.A. says it had also bought 242 other body scan machines that use millimeter wave technology, which doesn't emit radiation but uses "harmless radio waves," according to its manufacturer, L-3 Security and Detection Systems.

As of last week, the agency said, there were 99 backscatter units and 43 millimeter wave units at 41 airports. The machines cost about $150,000 each.

Radiation is a hot issue, so to speak. Reader reaction to the backscatters has ranged from a few claiming "there is no safe level of radiation exposure" to the many others expressing concern that the T.S.A. has rushed into buying these devices without adequately assessing the health question of repeated exposure to radiation.

If you're interested you could, and should, look up safety issues related to the backscatter technology. The T.S.A. says that the technology has been evaluated by the Food and Drug Administration's Center for Devices and Radiological Health, the National Institute for Standards and Technology, and the Johns Hopkins University Applied Physics Laboratory. The results, the agency said, confirmed that radiation doses for individuals "were well below the dose limits specified by the American National Standards Institute."

According to the agency, "a single scan using backscatter technology produces exposure equivalent to two minutes of flying on an airplane," where slightly higher levels of radiation are routine. These safety issues are discussed at www.TSA.gov.

But others who have studied the technology argue that repeated low-dose exposure to radiation at airport checkpoints is a cumulative risk, and that the safety of the backscatter technology has not yet been adequately demonstrated by impartial research.

In a letter on May 28, several organizations and individuals, including the American Civil Liberties Union and Ralph Nader, asked Congress to stop deployment of the devices pending "an independent review of the devices' health effects."

And in April, three Republican Senators, Susan Collins, Jon Kyl and Saxby Chambliss, wrote to the secretary of homeland security, Janet Napolitano, urging the department to evaluate a type of body imaging called auto-detection technology used at Schiphol Airport in Amsterdam.

That technology identifies potentially threatening objects on a person without actually showing naked body images and also "avoids exposing passengers to radiation," the senators said.

But for now, the agency is committed to the backscatters and millimeter wave machines.

To me, the obvious question is: Given that the two types of machines are both deemed effective by the T.S.A., why doesn't the agency just abandon backscatters and use the millimeter wave machines, which don't pose radiation issues?

"I'll tell you what the T.S.A. told us when we asked," Mr. Nader said. "They said, 'We want to stimulate competition in order to get the best price.' "

The agency does not entirely dispute that. "T.S.A. competitively bids technologies and makes selections through a comprehensive research, testing and deployment process," said Kristin Lee, a spokeswoman. "Technologies must meet detection standards, and T.S.A. tests these technologies in both laboratory and field environments."

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